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ABSTRACT

The booklet discusses winter outdoor education in Canada. The first section explains how to use snowshoes, followed by the use of the thematic approach with winter and snow. The thematic approach to snowmobiling gives both the pros and cons, and the outward spiraling effect of the popular sport. In discussing a winter field trip, activities are suggested for observing animals, plants, weather, moisture (water, ice, and snow), and the sky. The final section gives resources for winter studies. (KM)

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Hastings county outdoor education

SOME ASSISTANCE WITH WINTER ACTIVITIES AND RESOURCES FOR THE OUTDOORS

3rd Edition 1973-74

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RC007739

USING SNOWSHOES WITH CLASSES

Care should be taken in using snowshoes since they can be easily damaged.

Snowshoes should not be used on packed - playground surfaces nor when conditions are icy. Snowshoes are for Deep Snow Only - Ten inches or more.

Take several practice walks on deep snow where there are no rocks, no hard packed areas, no protruding branches that can damage the snowshoes.

16 mm film on snowshoeing is available from this office.

USING THE THEMATIC APPROACH WITH WINTER ⟷ SNOW

A. Initial Thoughts

1. Is there a need, due to high pupil interest, for a total immersion programme of curriculum enhancement where standard classroom texts and materials will not be the major resource?

2. Explore the potential and scope, spiraling outward.

3. What resources are available?

4. What goals are to be achieved?

   - content
   - concepts
   - skills
   - attitudes

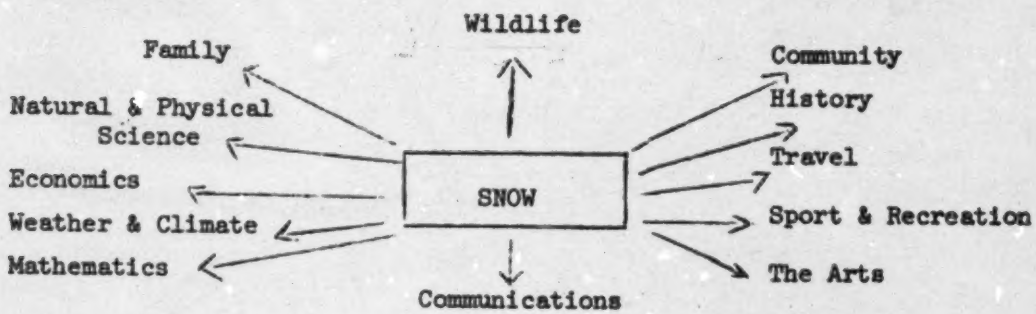
5. What curriculum areas are to be stressed?

B. Classroom Skills

- research
- work habits in groups and/or shared responsibility
- communications skills, both oral and written
- discovery, discussion, assignments, exercises, balance between group and individual work, balance between indoor and outdoor activities.

C. What is the role of the Teacher?

D. Initial Plan



From the sections, Travel and Sport/Recreation, the single topic, Snowmobiling, has been developed on the following two pages to illustrate potential and outward spiraling.

A THEMATIC APPROACH TO SNOWMOBILING

Rationale: Snowmobiling has, and is, changing drastically the whole 'winter psychology' of Canadian families. This sport has exploded in popularity throughout our society and Canadian lungs used to breathing the indoor air of the winter doldrums are now pulsating with fresh, winter oxygen.

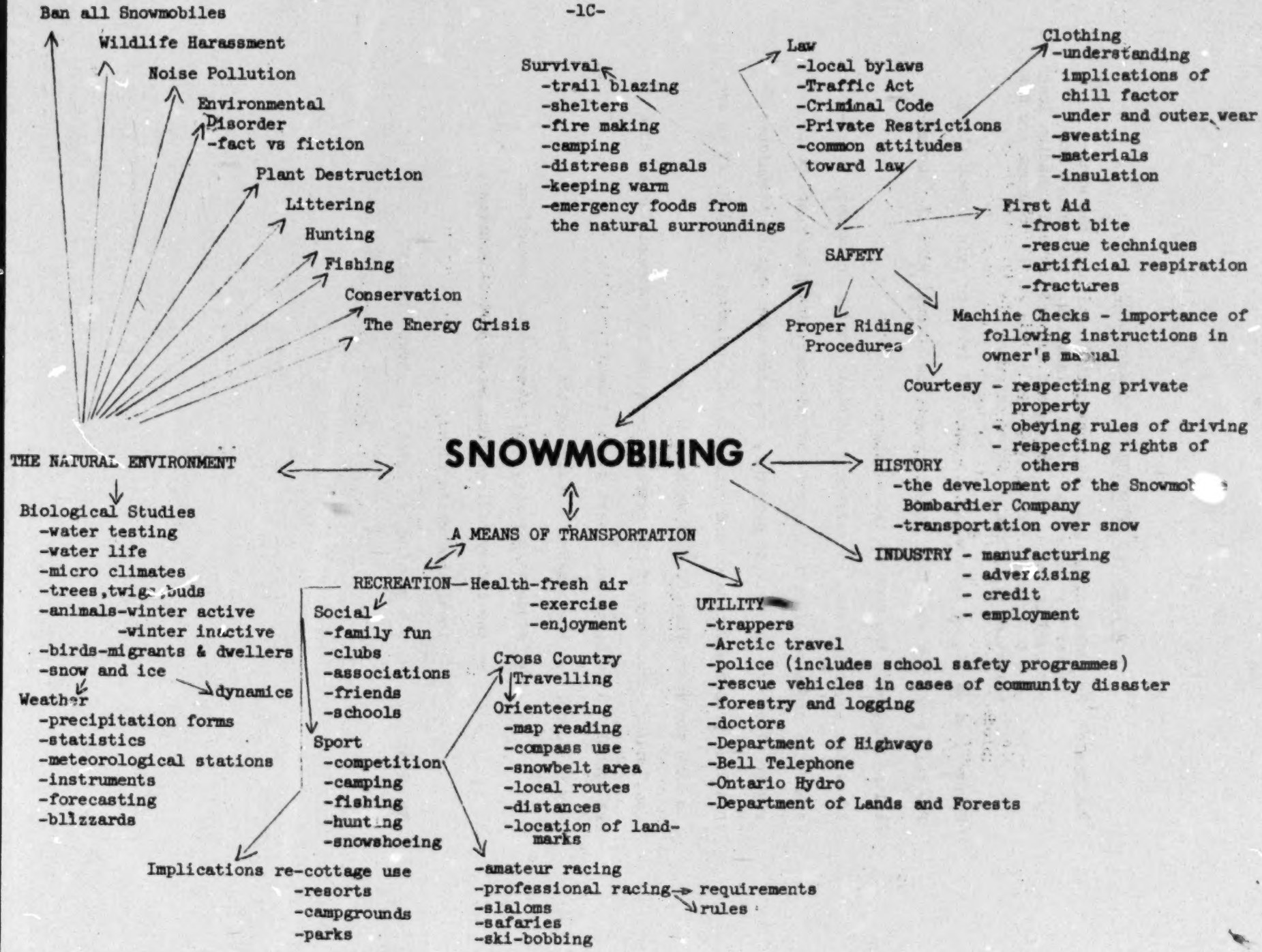
However, as usual, we have an almost paranoid drive to ruin a good thing. For this reason we must take time to learn how to deal with the snowmobiling bug, and, the bugs in snowmobiling.

If we are to save lives, increase and maintain public relations, understand the problems of environmental disturbances, learn to respect the rights of others and private property, practice safe driving techniques, practice proper maintenance and operation of equipment; indeed, if we are to save the sport itself, then we have to teach.

Can, and/or should any of the teaching relating to snowmobiling be done at school? I believe, yes. What do you think?

Key Personnel - the teacher - leader of the theme
- students/parents, owning/operating snowmobiles
- the safety officer from local police department
- local snowmobile clubs.

The Plan - A beginning, at least, is shown overleaf.


Ban all Snowmobiles
Wildlife Harassment
Noise Pollution
Environmental Disorder
-fact vs fiction
Plant Destruction
Littering
Hunting
Fishing
Conservation
The Energy Crisis
Survival
-trail blazing
-shelters
-fire making
-camping
-distress signals
-keeping warm
-emergency foods from the natural surroundings
Law
-local bylaws
-Traffic Act
-Criminal Code
-Private Restrictions
-common attitudes toward law
Clothing
-understanding implications of chill factor
-under and outer wear
-sweating
-materials
-insulation
First Aid
-frost bite
-rescue techniques
-artificial respiration
-fractures
SAFETY
Proper Riding Procedures
Machine Checks - importance of following instructions in owner's manual
Courtesy - respecting private property
- obeying rules of driving
- respecting rights of others
SNOWMOBILING
THE NATURAL ENVIRONMENT
Biological Studies
-water testing
-water life
-micro climates
-trees, twigs, buds
-animals-winter active
-winter inactive
-birds-migrants & dwellers
-snow and ice
dynamics
Weather
-precipitation forms
-statistics
-meteorological stations
-instruments
-forecasting
-blizzards
HISTORY
-the development of the Snowmobile
Bombardier Company
-transportation over snow
INDUSTRY - manufacturing
- advertising
- credit
- employment
A MEANS OF TRANSPORTATION
RECREATION
Health-fresh air
-exercise
-enjoyment
Social
-family fun
-clubs
-associations
-friends
-schools
Sport
-competition
-camping
-fishing
-hunting
-snowshoeing
Cross Country Travelling
Orienteering
-map reading
-compass use
-snowbelt area
-local routes
-distances
-location of landmarks
Implications re-cottage use
-resorts
-campgrounds
-parks
-amateur racing
-professional racing
-slaloms
-safaries
-ski-bobbing
requirements
rules
UTILITY
-trappers
-Arctic travel
-police (includes school safety programmes)
-rescue vehicles in cases of community disaster
-forestry and logging
-doctors
-Department of Highways
-Bell Telephone
-Ontario Hydro
-Department of Lands and Forests

A WINTER FIELD TRIP

A field trip in winter can produce more interesting lessons that one might think.

Snow and ice, the season's two most distinctive elements present many, many interesting and useful experiments. More generally, winter weather study provides almost limitless opportunities.

A walk after dark on a clear, crisp evening away from city street lights allows one to stare in awe at the glistening jewels of the heavens.

It is possible to identify trees and shrubs in the leafless condition by characteristics of buds, bark, leaf scars, and other features. Evergreen coniferous trees can be identified as readily in winter as in summer.

Although some mammals hibernate in winter, others remain active, and if snow is on the ground, their tracks can be found.

Birds can be seen at all times of the year. Winter birding will permit you to see permanent residents as well as winter visitors---migrants from the north, such as redpolls, snow buntings and pine grosbeaks.

The difference in temperature between protected and exposed locations can be checked with a thermometer. The temperature inside a cluster of moss may be from 5 to 10 degrees higher than on the open ground nearby.

Dried weed stalks often provide an abundance of food for seed-eating birds. Various kinds of fruit that remain on trees or shrubs during the winter also provide food for birds. Deer scrape through the snow to uncover grasses and other herbage, and visit orchards for fallen apples. Predators, both feathered and furred, are abroad, and you may occasionally come upon the remains of a meal of an owl or a fox.

Insect cocoons may often be found attached to weed stalks or woody plants.

The following suggested topics are, in part, taken from John M. Youngpeter's book Winter Science Activities, available from Saunders of Toronto.

1. Animals in Cold Weather
   - feeding stations
   - winter active vs winter inactive
   - adaptations of and seasonal changes in outer coverings
   - inspecting nests
   - food clues
   - pellet contents
   - trapping small animals for study

- study mounts from dead animals
- preparing skeletons
- footprints
- being an animal sleuth (detective)
- turtles and amphibians
- fish from under the ice
- age of fish
- pond animals
- a snail
- survival in ice
- the Berlese Funnel
- collecting aquatic larvas
- tree insects
- keeping a cricket
- larvas and temperature
- hatching cocoons
- spiders
- browsers

2. Plants

- collecting and preserving plants
- leaf-water experiment
- birds and pollen
- grafting and pruning
- dissolving out leaf colours
- tree research
- growth rings
- germinating seeds

- opening cones
- deciduous vs evergreen leaves
- leaf skeletons
- freezing and rotting
- examining galls
- winter protection for semi-temperate shrubs.

3. Weather
   - radiation, absorption and reflection
   - why wool retains heat
   - heat loss from hands
   - small container hothouse
   - temperatures
   - barometers
   - anemometers
   - weather proverbs
   - hailstones
   - cloud types
   - types of winter precipitation
4. Water, Ice, and Snow
   - ice experiments
   - cracking rocks
   - ice and pressure
   - frozen soil
   - sublimation of dry ice and ice
   - salt and ice
   - expansion and contraction
   - frost experiments

- observing snow crystals
- water, snow equivalents
- icicles
- snow banks
- highways and salt
- cars - snow and snowtires vs ice and snowtires

5. The Sky

- constellations
- sundial
- shadows
- ! \g shadows to measure heights
- the earth's inclination
- a month with the moon
- seasonal changes in the earth's position

The adaptability of the preceding partial list of topics is as variable as the needs of classes being exposed to it.

FOR COMPREHENSIVE, LONG RANGE, WINTER THEME STUDIES

Note: These themes should be developed like the one on snowmobiling, enclosed.

- nature interpretive hike on snowshoes
- orienteering exercises on snowshoes
- erection of a bird feeder city
- an overnight winter camp
- cross country skiing
- ice fishing
- snow and friction
- winter industry - Maple Syrup, past, present, future
  - Logging, past, present, future
  - Snow removal
- mythology and constellations
- History of Man's Survival through Canadian Winters

EXCELLENT RESOURCES FOR WINTER STUDIES IN THE OUTDOORS

1. Consider a winter visit to the H.R. Frink Centre during our Winter Unit. Programmes are adaptable to your needs.

2 Excellent Units available from the
Catalogue of Curriculum Resources 1973
Donco Quality Printers,
212 Division Street,
Kingston, Ontario.

3. Winter Science Activities by John M. Youngpeter

Saunders of Toronto Ltd.,
1885 Leslie St., (also see 6f below) 5.25
Don Mills, Ontario.

4. Snow and Ice by J.K. Couchman, J.C. MacBean, A. Stecher,

D.F. Wentworth, Holt, Rinehart and Winston 3.25
of Canada Ltd., Toronto, Ontario.

5. Native Trees of Canada by R.C. Hosie

Queen's Printer of Canada
Daly Building, Corner Mackenzie and Rideau 5.00
Cat. No. FO 45-1969.1

6. From the Federation of Ontario Naturalists,
1262 Don Mills Road, Don Mills, Ontario.

a) Bird's' Nests - Headstrom 4.70
b) A Field Guide to Animal Tracks - Murie 6.25
c) The Winter of the Fisher - C. Langford 6.25
d) The World of the Porcupine - Costello 6.50
e) Fruit Key and Twig Key - Harlow 1.45
f) Winter Science Activities - Youngpeter 4.75
g) 102 Bird Houses, Feeders You Can Make - Sibley 4.05
h) Winter Tree Finder .50

7. From the Series - Ryerson Science in Action (Good for all seasons)
McGraw Hill-Ryerson Press,
330 Progress Ave., Scarboro, Ontario.

Studying Birds - Audrey Wilson 3.25
Studying Soil - William MacKillean "
Studying Insects - Doug Sadler "
Studies for Woodlands - David Bates "
Studies for Open Places - MacKillean-Wilson-Woolley "
Studying Mammals - B. Dawson, W. Currie "
Studying Plants - D. Sadler "
Studying Streams - A. Daynes "